

V. Remarks

As correctly pointed out by the Examiner, several technical problems existed with the claims in the past, which have hopefully be eliminated with the withdrawal of those claims and with the addition of the new claims put forth in this Response.

The primary substantive reasons for the rejections in the past appear to be based on the prior art disclosed in Shiau (5,319,329). As detailed below, Applicant respectfully traverses the rejections and requests allowance of the claims. As detailed below, the Applicant's invention contains and claims novel features not disclosed in the cited references.

A. Shiau Distinguished

Applicant has carefully reviewed and analyzed the Examiner's Office communication and has also carefully reviewed the disclosure in the Shiau (5,319,329) patent. After this review, Applicant respectfully disagrees with the Examiner's rejections based on this reference.

The first element in the invention described in new claim 18 is a printed circuit board. The Examiner has posited that Shiau also discloses a printed circuit board. Applicant respectfully traverses this point, and holds the position that Shiau does not disclose a printed circuit board. The closest Shiau comes to disclosing a printed circuit board is at 1:32-36 which states "Filter 10 includes a dielectric substrate 12 having on a top surface thereof a printed microstrip circuit element 14 consisting of a series of parallel conductive paths which individually form half-wavelength resonators". If Shiau does indeed disclose a printed circuit board, then that means that a printed circuit board is a microstrip circuit element *consisting of* a series of parallel conductive paths which form half-wavelength resonators on a dielectric

substrate layer. We have found no definition of “printed circuit board” that in any way resembles such an interpretation.

Further, the Applicant’s invention does not claim a device or configuration such as that described in Shiau. At 1:36-41 Shiau discloses that “The substrate 12 further includes, on the surface thereof opposite circuit 14, a solid printed circuit layer 16 which completely covers that surface of substrate 12 and which is positioned against and electrically coupled to a conductive ground plane 18.” Clearly a “circuit layer” should not be confused with a “circuit board” as described in Shiau and Applicant’s invention.

The next important element of claim 18 is a plurality of internal signal traces located on a dielectric layer. It is Applicant’s position that Shiau does not disclose internal signal traces. The Office action identifies elements 64, 70, and 74 of Shiau as internal signal traces. Shiau describes these “transmission line elements” as a “transmission line” 64, and a “transmission path” 70 and 74. Shiau does not describe these as signal traces. More importantly, Shiau clearly states that these transmission line elements are for passing “microwaves” (not electrical signals) and are “electrically short” (3:16). As such, the Shiau “transmission line elements” are not “signal traces” as signal traces are generally known, since signal traces conduct electrical signals in a controlled manner. In other words, signal traces are not “electrically short”, as the transmission line elements are in Shiau. Therefore the Shiau “transmission line elements” are therefore fundamentally different from signal traces in both structure and function. With new claim 18 distinguished from Shiau, the remaining claims should also be distinguishable, and in position for allowance.

VI. CONCLUSION

As discussed in detail above, the cited art does not have significant elements of the present invention, including "A printed circuit board" and a plurality of "internal signal traces" located on a dielectric layer, wherein the dielectric layer is suspended in air between two flat metal plates."

In light of the above remarks, as well as the re-written claims, the Applicant respectfully requests that the Examiner grant allowance to the pending claims. Applicant believes that the claims are proper, definite, and define novel subject matter that is also not obvious.

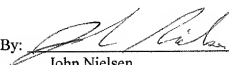
If for any reason, this application is not believed to be in full condition for allowance, Applicant respectfully requests the constructive assistance and suggestion of the Examiner pursuant to M.P.E.P. section 2173.02 and section 707.07(j) in order that the undersigned can place this application in fully allowable condition.

Respectfully submitted,

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